

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINERAL RESOURCES MANAGEMENT

POND/IMPOUNDMENT PLAN

Applicant's Name **American Energy Corporation** Pond/Impoundment # **013 As Built**

Type of pond/impoundment **Embankment** Permanent ☐ Temporary ☒

1. DRAINAGE AREA DATA:

- a) Drainage area **47.9** acres
- b) Disturbed area **40.4** acres
- c) Ave. land slope **25 %**
- d) Hydrologic soil group **C**
- e) Hydraulic length **5144** ft.
- f) Cover/condition of the undisturbed area **Pasture/Fair**

2. DESIGN STORM CRITERIA:

a) Method:

- 1) Design method(s) including computer programs: **SEDCAD 4.0**
- 2) NRCS curve number **various (see run sheets)**

b)	Rainfall Amount/Peak Flow	Rainfall, in.	Peak flow, cfs.
1)	10 year, 24 hour =	3.7	79.9
2)	25 year, 24 hour =	4.2	95.3
3)	50 year, 6 hour = (if permanent)		
4)	100 year, 6 hour = (if 20/20 size)		

3. SIZE:

a) Dimensions:

1)	Dam height	18	ft.	4)	Dam downstream slope	50	%
2)	Dam width	12	ft.	5)	Dam upstream slope	33 1/3	%
3)	Dam length	900	ft.	6)	Core length	N/A ft.	ft.

b) Sediment storage volume **8.3** ac. ft. is provided below the **1117** foot elevation.

c)	Stage/Area Data:	Elevation ft.	Surface Area ac.	Volume ft.
1)	Bottom of pond/impoundment	1100	0.041	0.0
2)	Streambed at upstream toe:	1100	0.041	0.0
3)	Principal spillway inlet:	1117*	1.168	8.3
4)	Emergency spillway crest:	1118	1.236	9.5
5)	Top of embankment:	1120	1.367	12.1

4. PRINCIPAL SPILLWAY:

- a) Pipe length **66** ft.
- b) Pipe diameter **14** in.
- c) Pipe slope **2.9** %
- d) Riser diameter **18** in.
- e) Riser height **10** ft.
- f) Type of pipe **HDPE**
- g) Number of anti-seep collars **2**; spacing along pipe **20** ft.
- h) Does the design include a trash rack? ☐ Yes, ☒ No.
- i) Does the design include an anti-vortex device? ☐ Yes, ☒ No.

5. EMERGENCY SPILLWAY/EXIT CHANNEL:

- a) Base width **12** ft.
- b) Design flow depth **0.2** ft.
- c) Exit slope **9.0**%
- d) Exist velocity **2.7** fps
- e) Channel lining **Grass Mix**
- f) Side slopes **3:1**
- g) Freeboard **1.5** ft.
- h) Entrance slope **50** %
- i) Length of level control section **20** ft.

6. The minimum static factor of safety for this impoundment is **1.5**

7. Provide as an addendum to this attachment a detailed plan view or 2 cross sections of the impoundment.

8. COMMENTS:

*** Riser pipe shall have four (4), 4" holes placed at elevation 1114.5'. Storage below perforations is 5.6 acre-feet.**

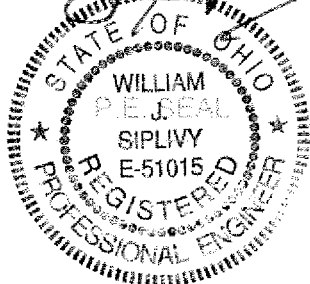
9. Is this an MSHA structure? ☐ Yes ☒ No. If "yes," provide the MSHA ID number if one has been assigned

10. If this is to be retained as a permanent impoundment, submit an addendum to this attachment demonstrating compliance with 1501:13-9-04 of the Administrative Code.

11. I hereby certify that this impoundment is designed to comply with the applicable requirements of 1501:13-9-04 of the Administrative Code using current, prudent engineering practices.

William J. Siplivy
Signature

17 Oct. 2007
Date



Part 3: Section A/H